

Borehole

51-10-25

Log Event A

Borehole Information

Farm : <u>TX</u>	Tank : <u>TX-110</u>	Site Number : <u>299-W15-197</u>
N-Coord : <u>41,895</u>	W-Coord : <u>75,831</u>	TOC Elevation : <u>670.00</u>
Water Level, ft :	Date Drilled : <u>3/31/1978</u>	

Casing Record

Type : <u>Steel-welded</u>	Thickness : <u>0.280</u>	ID, in. : <u>6</u>
Top Depth, ft. : <u>0</u>	Bottom Depth, ft. : <u>102</u>	

Borehole Notes:

According to the driller's records, this borehole was not perforated. The borehole was drilled to a depth of 107 ft and completed to a depth of 100 ft. The borehole was grouted from the ground surface to 16 ft and from 100 to 107 ft. The casing thickness is presumed to be 0.280 in., on the basis of published thickness for schedule-40, 6-in. steel tubing.

Equipment Information

Logging System : <u>2</u>	Detector Type : <u>HPGe</u>	Detector Efficiency: <u>35.0 %</u>
Calibration Date : <u>10/1995</u>	Calibration Reference : <u>GJPO-HAN-3</u>	Logging Procedure : <u>P-GJPO-1783</u>

Log Run Information

Log Run Number : <u>1</u>	Log Run Date : <u>3/13/1996</u>	Logging Engineer: <u>Alan Pearson</u>
Start Depth, ft.: <u>98.5</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>53.0</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>

Log Run Number : <u>2</u>	Log Run Date : <u>3/14/1996</u>	Logging Engineer: <u>Bob Spatz</u>
Start Depth, ft.: <u>54.0</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>0.0</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>



Spectral Gamma-Ray Borehole
Log Data Report

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Borehole

51-10-25

Log Event A

Analysis Information

Analyst : D.L. Parker

Data Processing Reference : P-GJPO-1787

Analysis Date : 12/9/1996

Analysis Notes :

This borehole was logged in two log runs. The pre- and post-survey field verification spectra met the acceptance criteria established for the peak shape and detector efficiency, confirming that the SGLS was operating within specifications. The energy calibration and peak-shape calibration from these spectra were used to establish the channel-to-energy parameters used in processing the spectra acquired during the logging operation.

Casing correction factors for a 0.280-in.-thick steel casing were applied during analysis.

The man-made radionuclides detected in this borehole were Cs-137 and Co-60. The presence of Cs-137 contamination was measured almost continuously from the ground surface to about 13 ft and at the bottom of the borehole. The maximum Cs-137 concentration was 8.7 pCi/g at 3 ft. The presence of Co-60 contamination was measured at 62 and 95.5 ft. The maximum Co-60 concentration was 0.1 pCi/g at 95.5 ft.

K-40 concentrations increase at about 47 ft.

Additional information and interpretations of log data are included in the main body of the Tank Summary Data Report for tank TX-110.

Log Plot Notes:

Separate log plots show the man-made (Cs-137 and Co-60) and the naturally occurring radionuclides (KUT). The natural radionuclides can be used for lithology interpretations. The headings of the plots identify the specific gamma rays used to calculate the concentrations.

A combination plot includes the man-made and natural radionuclides, the total gamma derived from the spectral data, and the Tank Farms gross gamma log. The gross gamma plot displays the latest available digital data. No attempt has been made to adjust the depths of the gross gamma logs to coincide with the SGLS data.

Uncertainty bars on the plots show the statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plots give the MDL. The MDL of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible.